

## ABSTRACT

A capacitor-type pulse discharge apparatus for generating an electric current pulse through an electrical load, comprises an electrical power source and at least one pulse  
5 discharge switch module. The pulse discharge switch module includes a capacitor for storing an electrical energy, a semiconductor high-power switch and a semiconductor low-power switch connected to the same terminal of the capacitor. The high-power switch has an input connected in series to the capacitor for allowing the stored electrical energy to be transferred from the capacitor to the load, and the low-power switch has an input connected in series to  
10 the capacitor for allowing charging supply from the electrical power source to charge the capacitor.